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5 May 1991

AGREEMENT

CONCERNING THE ADOPTION OF UNIFORM CONDITIONS OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL FOR MOTOR VEHICLE EQUIPMENT AND PARTS

done at Geneva on 20 March 1958

Addendum 2: Regulation No. 3 annexed to the Agreement

Date of entry into force as an annex to the Agreement:
1 November 1963

Revision 1 – Amendment 2

Supplement 1 to 02 series of amendments* – Date of entry into force:
4 May 1991

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF RETROREFLECTING DEVICES FOR POWER-DRIVEN VEHICLES AND THEIR TRAILERS

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* This 02 series of amendments entered into force on 1 July 1985.

UNITED NATIONS

Paragraph 1, SCOPE, amend to read:

"1. This Regulation applies to retroreflecting devices used on road vehicles."

Paragraph 2.15, amend to read:

"2.15 Retroreflecting devices are divided into three classes according to their photometric characteristics: Class I A, Class III A and Class IV A."

Insert the following new paragraph 3.1.5, to read:

"3.1.5 In the case of devices of Class IV A: samples of the retroreflecting device and, if necessary, the means of fixation; the number of samples to be submitted is specified in annex 14 to this Regulation."

Paragraph 5.2, add at the end:

"Paragraph 5.2 is not applicable to devices of Class IV A."

Paragraph 5.4, amend to read:

"Notice of approval or of extension or refusal of approval of a type of retroreflecting device ... to the model in annex 2 to this Regulation."

Paragraph 5.5.1.3, amend to read:

"a group of symbols "I A", "III A" or "IV A" showing the class in which the retroreflecting device was placed when approved."

Insert the following new paragraph 6.5 to read:

"6.5 For devices of Class IV A their means of fixation shall be such that they allow a stable and durable connection between the device and the vehicle."

Paragraph 7.1, amend to read:

"7.1 Retroreflecting devices must also satisfy the conditions as to dimensions and shape, and the colorimetric, photometric, physical and mechanical requirements set forth in annexes 5 to 11 and 13 to this Regulation. The test procedures are described in annex 4 (Class I A and III A) and 14 (Class IV A)."

Paragraph 9, amend to read:

"9. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

9.1 The approval granted for a type of retroreflecting device may be withdrawn if the requirements are not complied with or if a retroreflecting device bearing the approval mark does not conform to the type approved.

9.2 If a Contracting Party to the Agreement applying this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation by means of a communication form conforming to the model in annex 2 to this Regulation."

Paragraph 10, amend to read:

"10. PRODUCTION DEFINITELY DISCONTINUED

If the holder of the approval completely ceases to manufacture a type of retroreflecting device approved in accordance with this Regulation, he shall so inform the authority which granted the approval. Upon receiving the relevant communication, that authority shall inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in annex 2 to this Regulation."

Paragraph 11, amend to read:

"... forms certifying approval or extension or refusal or ..."

Annex 2, amend to read:

"Annex 2 (maximum format: A4 (210 x 297 mm))

COMMUNICATION

issued by: Name of administration:

.....

.....

.....

concerning: 2/ APPROVAL GRANTED

APPROVAL EXTENDED

APPROVAL REFUSED

APPROVAL WITHDRAWN

PRODUCTION DEFINITELY DISCONTINUED

of a type of retroreflecting device pursuant to Regulation No. 3.

Approval No. ... Extension No. ...

1. Trade name or mark of the device: .....

2. Manufacturer's name for the type of device: .....

3. Manufacturer's name and address: .....

4. If applicable, name and address of the manufacturer's representative: .....

5. Submitted for approval on: .....

6. Technical service reponsible for conducting approval tests: .....

7. Date of test report: .....

8. Number of test report: .....

9. Concise description:

In isolation/part of an assembly of devices: 2/ .....

Colour of light emitted: white/red/amber: 2/ .....

10. Position of the approval mark: .....

11. Reason(s) for extension (if applicable): .....

12. Approval granted/refused, extended/withdrawn: 2/ .....

13. Place: .....

14. Date: .....

15. Signature: .....

16. The following documents, bearing the approval number shown above, are available on request: .....

Notes

1/ Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).

2/ Strike out what does not apply."

Annex 4, amend the title to read:

"TEST PROCEDURE - CLASS I A AND CLASS III A"

Annex 5, renumber paragraph 3 as 4 and insert a new paragraph 3 to read:

"3. SHAPE AND DIMENSIONS OF RETROREFLECTING DEVICES IN CLASS IV A

3.1 The shape of the light emitting surfaces must be simple and not easily confused at normal observation distances with a letter, a digit or a triangle. However, a shape resembling the letters and digits of simple form, O, I, U and 8 is permissible.

3.2 The light emitting surface of the retro-reflecting device must be at least 25 cm^2."

Annex 7, paragraph 2, amend the last sentence to read:

"In the case of Class III A and IV A the whole of the illuminating surfaces shall be considered without limitation as to size."

Annex 7, paragraph 3, amend to read:

"3. CIL values

3.1 The CIL values for red retroreflecting devices must be at least equal to those in the table below, expressed in millicandelas per lux, for the angles of divergence and illumination shown.

Class	Angle of divergence α	Illumination angles (in degrees)			
		Vertical V Horizontal H	0° 0°	± 10° 0°	± 5° ± 20°
I A	20' 1°30'		300 5	200 2.8	100 2.5
III A	20' 1°30'		450 12	200 8	150 8

CIL values lower than those shown in the last two columns of the above table are not permissible within the solid angle having the reference centre as its apex and bounded by the planes intersecting along the following lines:

(V = ± 10°, H = 0°) (V = ± 5°, H = ± 20°).

3.2 For devices of Class IV A the CIL values must be at least equal to those in the table below, expressed in millicandelas per lux, for the angles of divergence and illumination shown.

Colour	Angle of divergence	Illumination angles (in degrees)						
		Vertical V Horizontal H	0 0	± 10 0	0 ± 20	0 ± 30	0 ± 40	0 ± 50
White	20' 1°30'		1 800 34	1 200 24	610 15	540 15	470 15	400 15
Amber	20' 1°30'		1 125 21	750 15	380 10	335 10	290 10	250 10
Red	20' 1°30'		450 9	300 6	150 4	135 4	115 4	100 4

"

Annex 8, paragraph 1.3, amend to read:

"1.3 If visual inspection does not reveal the presence of water or in case of doubt, the CIL shall be measured by the method described in annex 4, paragraph 3.2 or annex 14, paragraph 4.2 the retroreflecting device being first lightly shaken to remove excess water from the outside."

Annex 8, paragraphs 4 and 5.3, amend the text in brackets to read:

"(annex 4, paragraph 3.2 or annex 14, paragraph 4.2)."

Add a new annex 13, to read:

"Annex 13

RESISTANCE TO IMPACT - CLASS IV A

1. The retroreflecting device shall be mounted in a manner similar to the way in which it is mounted on the vehicle, but with the lens faced horizontal and directed upwards.

2. Drop a 13 mm diameter polished solid steel ball, once, vertically onto the central part of the lens from a height of 0.76 m. The ball may be guided but not restricted in free fall.

3. When a retroreflecting device is tested at room temperature with this method, the lens shall not crack."

Add a new annex 14, to read:

"Annex 14

TEST PROCEDURE - CLASS IV A

1. The applicant shall submit for approval ten samples which shall be tested in the chronological order indicated in annex 15.

2. After verification of the specifications in paragraphs 6.1-6.5 and the specifications of shape and dimensions (annex 5), the ten samples shall be subjected to the heat resistance test (annex 10) and one hour minimum after this test examined as to their colorimetric characteristics (annex 6) and CIL (annex 7) for an angle of divergence of 20' and an illumination angle V = H = 0° or, if necessary, in the positions defined in annex 7. The two retroreflecting devices giving the minimum and maximum values shall then be fully tested as shown in annex 7. These two samples shall be kept by the laboratories for any further checks which may be found necessary.

3. Four samples out of the remaining eight samples shall be selected at random and divided into two groups of two in each group.

First group:

The two samples shall be subjected successively to the water-penetration resistance test (annex 8, paragraph 1) and then, if this test is satisfactory, to the tests for resistance to fuels and lubricating oils (annex 8, paragraphs 3 and 4).

Second group:

The two samples shall, if relevant, be subjected to the corrosion test (annex 8, paragraph 2), and then to the abrasive-strength test of the rear face of the retroreflecting device (annex 8, paragraph 5). These two samples shall also be subjected to the impact test (annex 13).

4. After undergoing the tests referred to in the above paragraph, the retroreflecting devices in each group must have:

4.1 A colour which satisfies the conditions laid down in annex 6. This shall be verified by a qualitative method and, in case of doubt, confirmed by a quantitative method;

4.2 A CIL which satisfies the conditions laid down in annex 7. Verification shall be performed only for an angle of divergence of 20' and an illumination angle of V = H = 0° or, if necessary, in the positions specified in annex 7.

5. The four remaining samples can be utilized, if necessary, for any other purpose."

Add a new annex 15, to read:

"Annex 15

CHRONOLOGICAL ORDER OF TESTS FOR CLASS IV A

Number of annex	Number of paragraph	TEST	SAMPLES									
			a	b	c	d	e	f	g	h	i	j
-	6	General specifications: visual inspection	x	x	x	x	x	x	x	x	x	x
5		Shape and dimensions: visual inspection	x	x	x	x	x	x	x	x	x	x
10	-	Heat: 48 h at 65° ± 20°C	x	x	x	x	x	x	x	x	x	x
		Visual inspection for distortion	x	x	x	x	x	x	x	x	x	x
6	-	Colorimetry: visual inspection	x	x	x	x	x	x	x	x	x	x
		Trichromatic co-ordinates in case of doubt		x								
7	-	Photometry: limited to 20' and V = H = 0°	x	x	x	x	x	x	x	x	x	x
7	-	Complete photometry	x	x								

Number of annex	Number of paragraph	TEST	SAMPLES									
			a	b	c	d	e	f	g	h	i	j
8	1	Water: 10 min in normal position			x	x						
		10 min in inverted position			x	x						
		visual inspection			x	x						
8	3	Motor fuels: 5 min			x	x						
		visual inspection			x	x						
8	4	Oils: 5 min			x	x						
		visual inspection			x	x						
6	-	Colorimetry: visual inspection			x	x						
		Trichromatic co-ordinates in case of doubt			x	x						
7	-	Photometry: limited to 20° and V = H = 0°			x	x						
8	2	Corrosion: 24 hours					x	x				
		2 hours' interval					x	x				
		24 hours					x	x				
		visual inspection					x	x				
8	5	Rear face: 1 min					x	x				
		visual inspection					x	x				
13		Impact					x	x				
		visual inspection					x	x				
6	-	Colorimetry: visual inspection					x	x				
		Trichromatic co-ordinates in case of doubt					x	x				
7	-	Photometry: limited to 20° and V = H = 0°					x	x				
14	2	Deposit of samples with administration	x	x								